



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Before the Board of Patent Appeals and Interferences

In re Application of

YVES MALECOT ET AL

APPEAL No.

U.S. Serial No. 09/744,946

Group Art Unit 1723

Filed: February 8, 2001

T. Cecil, Examiner

FILTERING ELEMENT MADE OF  
ABSORBENT PAPER MATERIAL IN  
THE FORM OF A TUBULAR CYLINDER

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Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

Dear Sir:

Transmitted herewith is the Appeal Brief in the above-identified application.

X Appeal Brief fee enclosed of ~~\$165.00~~ /\$330.00.  
— Small entity status of this application has been established.

X This Appeal Brief is being filed within the period set for filing.

— Appellant(s) hereby petition for an extension for filing this Appeal Brief as follows:

— First-Month Extension.....	\$ 55.00 / \$ 110.00
— Second-Month Extension.....	\$ 210.00 / \$ 420.00
— Third-Month Extension.....	\$ 475.00 / \$ 950.00
— Fourth-Month Extension.....	\$ 740.00 / \$ 1480.00

A check in the amount of \$ 330.00 is attached hereto.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-3690 of the undersigned attorney. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

*Mary J. Breiner*

Mary J. Breiner, Reg. No. 33,161

Date: September 7, 2004  
Telephone 703-684-6885

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B R I E F   O N   A P P E A L

Dear Sir:

This appeal is from the action of the Primary Examiner in finally rejecting claims 13-23 and 25.

Appellants' brief fee of \$330 is attached. The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 02-3690 of the undersigned attorney.

Real Party in Interest

The named inventors of the captioned application have assigned their entire rights to Georgia-Pacific France,

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a corporation organized under the laws of France, located in Kunheim, France.

#### Related Appeals and Interferences

No appeal or interference is known to appellants which will directly affect or be directly affected by or have a bearing on the Board's decision in this pending appeal.

#### Status of Claims

The claims pending in this application are claims 13-23 and 25.

The application as originally filed contained claims 1-12. Claims 1-12 were canceled with the filing of the Preliminary Amendment on March 30, 2001; and claims 13-25 were added. Claim 13 was thereafter amended and claim 24 canceled by amendment dated September 3, 2002. Claim 13 was also amended in the amendment after final rejection filed April 15, 2003. This amendment was entered per the Examiner in the official action mailed May 1, 2003. Accordingly, the appealed claims are 13-23 and 25 as set forth in the Appendix hereto.

#### Status of Amendments

A response was made to the final official action mailed January 5, 2004. No amendments to the claims were made in the response.

Summary of Invention

The claimed invention relates to a filter element for use in filtering a fluid and is designed for use within a filtration system including a cylindrical case. The filter element is made of an absorbent paper material in the form of a sheet configured to subtend a tubular cylinder and is arranged within the cylindrical case to partition an outer radial portion from an inner radial portion, with fluid moving across the filter element in a generally centripetal direction. (Page 1, second paragraph)

More particularly, Figures 1 and 2 show a fluid filter system 10 substantially including a case 12 and a filter element 14. The case 12 is fitted with a cylindrical side wall 16 forming a body of revolution about the axis A1, and it is closed at its two axial ends by two lower and upper transverse lids 18 and 20. The lids 18, 20 are affixed to the axial ends of the side wall 16, for example by a screw connection or any other conventional means. (Page 5, first paragraph)

The case 12 includes an intake 22 radially issuing into the side wall 16 so that a fluid may enter the inside of the case 12. The lower lid 18 is fitted at its center with an axially pointing orifice 24 constituting an outlet for the fluid after it has been filtered so that it can leave the case

12. (Page 5, second paragraph)

The filter element 14 is a strip of paper cylindrically wound about the axis A1 so as to substantially constitute a body of revolution about this axis; and, in the manner of the present invention, the cylindrical winding is devoid of any central core, as a result of which the inside wall of the filter element is constituted by the innermost turns of the wound paper. (Page 5, third paragraph)

On account of the contour, the winding turns are prevented from unraveling inward, so that, even when unconstrained, the filter element retains its shape. (Pages 6-7, bridging paragraph)

As shown in Figure 1, the filter element 14 is configured in the case 12 in a manner that its two axial ends axially rest one against the lower lid 18 and the other against the upper lid 20, whereby, inside case 12, the filter element 14 defines two zones, namely a peripheral, outer zone 26 and a radial, inner zone 30, the zone 30 being radially bounded outward by the inside wall of the filter element's winding. (Page 7, first full paragraph)

Accordingly, the fluid entering the case through the intake 22 reaches the inside of the external, peripheral zone 26. The outlet 24 issues into the inner, radial portion 30. Therefore, in order to exit the case 12, the fluid that has

entered it perforce must cross the filter elements in a substantially radially inward manner. (Page 7, second full paragraph)

### The Issues

(1) Whether claims 13-15, 18-21 and 25 are unpatentable under 35 U.S.C. §103(a) over U.S. Patent No. 4,454,036 (Suzuki) in view of U.S. Patent No. 2,512,797 (Harvuot);

(2) Whether claims 13-21 and 25 are unpatentable under 35 U.S.C. §103(a) over Suzuki in view of Harvuot and U.S. Patent No. 4,487,378 (Kobayashi); and

(3) Whether claims 22-23 are unpatentable under 35 U.S.C. §103(a) over Suzuki, Harvuot and Kobayashi as applied above to claim 13 and further in view of British Application No. 2,150,456 (Whiteside).

### Grouping of Claims

The claims will be argued together as one group.

### Argument

#### A. Application of Applied Art

The pending claims are 13-23 and 25 wherein claim 13 is the sole independent claim.

Claim 13 claims a filter element including -

- absorbent tissue paper material in sheet form  
compactly wound to form inner winding turns therein and  
to constitute a tubular cylinder,
- fluid being able to move across the filter element  
in a substantially centripetal direction;
- the filter element being devoid of a core; and
- the inner winding turns having a contour which  
prevents the inner winding turns from unraveling inward.

These structural features, in particular in combination, are not rendered obvious by the applied art within the meaning of §103. The basic references applied in each rejection are Suzuki and Harvuot. Each of these references fails to teach or suggest certain claimed features or requires the presence of other features which are inconsistent or teach away from the claimed invention.

Most notably as to Suzuki, Suzuki does not describe absorbent tissue paper in sheet form compactly wound or that fluid can move across the described filter element in a substantially centripetal direction; and, as acknowledged by the Examiner, Suzuki does not teach a filter element devoid of a central core.

As disclosed in Suzuki, at column 4, lines 5-7, "the oil flows into the oil path B from the lower end side of the element 1 ...." Thus, even if a part of the direction of

flow were diametrical, the outlet of the filter is thus axial which is contrary to the filter of the invention. This is confirmed since there is no opening along the surface of the central axis. As described at column 2, lines 45-50, the central core member 1b is made of thick paper, plastic or metal. Clearly, therefore, no fluid can pass through the core member.

The Examiner asserts at page 2, first paragraph, in the Advisory Action mailed June 30, 2004 that claim 13 states

-  
"wherein fluid is able to move across the filter element in a substantially centripetal direction"  
(original emphasis)

and, thus, the

"claim language does not limit the claim such that fluid must flow perpendicularly from a radial outside part 26 into a radial inside part 30 and then to an axial outlet 24 as shown in e.g. applicant's figure 1."

Appellants' claim language "is able" requires that the filter element must allow the fluid to move across the filter element in a substantially centripetal direction. The noted language "is able" requires that the fluid must have the capability of moving across the filter element in a substantially centripetal direction. Suzuki does not teach or suggest this claimed feature. Due to Suzuki requiring the presence of a central core, no fluid can move across the filter element as claimed as set forth above.



Further, Suzuki does not teach a roll as being compactly wound as claimed by appellants. At page 6, paragraph 1, of the appellants' captioned application, a manner of obtaining the compactly wound roll is described wherein a compression roller is applied against the outside of the winding in progress and allows for especially compact winding. Suzuki does not teach or suggest compact winding, but rather teaches only conventional forming of wound paper on a core, i.e., the simple wrapping of a thin sheet of water-insoluble paper in the same manner as toilet paper. Toilet paper is not compactly wound so as to avoid crushing of the core and the paper in which a thickness or softness is desired. Such properties would be at least severely lessened if not removed from the paper if such was subjected to compact winding. Accordingly, Suzuki also does not teach compact winding as claimed.

The Examiner at pages 2-3, bridging paragraph, in the Advisory Action mailed June 30, 2004, discounts that Suzuki does not teach the "roll as being compactly wound" since appellants' claims do not require the filter element be made using a compression roller or require a compacting process which results in avoiding "crushing of the core". The Examiner contends that the filter element of Suzuki is formed by "wrapping many times", has a filtering capacity and fits

within the end cap 6 and, thus, "has a sufficient degree of compactness for that claimed".

Appellants claim that the absorbent paper tissue material is compactly wound to form inner winding turns which exhibit a contour which prevents inward unraveling of the inner winding turns. Thus, a particular structure is claimed. Compression rollers are one means useful to obtain this structure and are set forth in appellants' argument as an example of why Suzuki does not teach or suggest appellants' claimed structure. Suzuki teaches the requirement of a core. To provide compact winding as claimed in appellants' invention, the structure taught in Suzuki could not withstand the manufacturing process. Further, no suggestion is provided in Suzuki as to the Examiner's assertion as to what would be a "sufficient degree of compactness" in order to obtain appellants' claimed invention since Suzuki does not teach a coreless filter element as claimed. Appellants respectfully submit that the Examiner's assertions are based on mere speculation and not a factual basis present in the applied art. In the absence of appellants' teaching no basis is provided as to a "degree of compactness" and, thus, the basis asserted by the Examiner can lead away from the claimed invention on the same grounds. No suggestion is provided as to the claimed invention, much less how to obtain the claimed

invention.

Harvuot does not make up for the shortcomings of Suzuki. Upon combination of Suzuki and Harvuot, appellants' claimed invention would still not be provided. The filter taught by Harvuot is made of a paper which has been treated with a resin. Harvuot teaches that the filter is rigid, but the rigidity is due to the treatment with resin and not because of the sheet being compactly wound, in particular to provide inner winding turns with a contour which prevents unraveling of the winding turns. Harvuot describes the manufacturing method used to obtain the filter. It is clearly different from the compact winding used in the filter of the invention. After impregnating the roll with resin, the rolls are baked at a temperature of 250°F in order to obtain a rigid product. The filter described in Harvuot does not include any core because it includes sufficient internal rigidity due to the resin. The function of a core is fulfilled by the impregnated paper. See column 3, lines 22-27, -

"... one or more wraps of impregnated paper may be used at the inner or outer surface of the cylinder as may be required .... If higher pressures are to be used, the unit must be made more rigid and stronger."

Thus, the combination of teachings of Suzuki and Harvuot does not produce the filter of the invention. Based on the specific teachings of required features for the arti-

cles described to be useful for their intended functions, the roll of Suzuki requires a central core for support. Applying the teaching of Harvuot to Suzuki implies the use of support provided by the resin in Harvuot. In appellants' claimed invention it is the compact roll combined with a contour of the inner surface of the roll that provides the required support.

One skilled in the art, therefore, would not obtain the claimed invention from a combination of the teachings of Suzuki and Harvuot. Substitution of the filter of Harvuot in an oil filter as described in Suzuki would not result in a filter element of absorbent tissue paper devoid of a core member compactly wound and allowing fluid to move across the filter in a substantially centripetal direction. Accordingly, the combination of Suzuki and Harvuot is deficient in teaching and suggestion with respect to the combined structure of the claimed invention.

The Examiner at page 3, first full paragraph, of the Advisory Action mailed June 30, 2004 asserts that the filter of Suzuki modified with the impregnated filter of Harvuot produces the claimed coreless filter and that motivation to combine is that it would be less expensive to manufacture. This assertion, however, ignores the fact that a combination of Suzuki and Harvuot only results in the structure of Harvuot

since such combination only teaches providing a filter without a core and the sole means to do so taught is the use of resin-impregnated filter material as described in Harvuot. The resin is the only means taught or suggested in Suzuki or Harvuot which provides the structural ability not to use a core in the disclosed filter elements. Neither Suzuki nor Harvuot teaches or suggests appellants' claimed invention of a filter element including absorbent tissue paper material compactly wound to form inner winding turns exhibiting a contour which prevents the turns from unraveling inward. Harvuot teaches structural maintenance due to the resin impregnation of the filter material. Suzuki teaches structural maintenance based on the presence of a core. These are both distinct structures from that claimed by appellants and no suggestion is provided to modify these structures in such a manner so as to obtain appellants' claimed structure. The motivation of being less expensive to manufacture provides no suggestion of how to obtain appellants' structure. A less expensive structure is supposedly taught by Harvuot so one skilled in the art would not have to proceed further.

The secondary references of Kobayashi and Whiteside do not make up for the shortcomings of Suzuki and Harvuot.

Kobayashi teaches making a compactly wound roll of tissue paper. However, there is no teaching or suggestion in

any of Suzuki, Harvuot or Kobayashi that such would be suitable as a filter element. Each of Suzuki and Harvuot teaches required structural elements to meet the disclosed purpose of a filter element which are inconsistent with the teachings of Kobayashi. Since Kobayashi does not teach a rolled material intended to maintain its structural integrity after a fluid moves across the wound toilet paper, one skilled in the art would not even look to Kobayashi for modification of the teachings of Suzuki or Harvuot, or not at least which would result in the provision of appellants' claimed invention, in view of the difference in use and structure.

The Examiner at page 3, second full paragraph of the Advisory Action mailed June 30, 2004, asserts that since Suzuki teaches the filter element therein can be made in the manner of toilet paper, one would be motivated to look to Kobayashi for a manner of making a compactly wound roll of tissue paper and that Harvuot would provide the benefit of being less expensive by not requiring the expense of a core. This, however, ignores specific teachings of the references which would prevent the obtaining of appellants' claimed invention in the absence of other teachings (which herein is only present from appellants' own teaching). Suzuki teaches a filter element requiring a core to provide sufficient structural integrity to serve as a filter element, even when wound

in the manner of toilet paper. Harvuot teaches the need for resin impregnation of the filter material in order to provide sufficient structural integrity to serve as a filter element. Kobayashi teaches a roll of toilet paper which does not have to have the structural integrity to serve as a filter material through which fluid moves across since the toilet paper only requires structural integrity for storage since the toilet paper is removed from the roll in use. Accordingly, to have sufficient structural integrity to serve as a filter material, the roll of Kobayashi would require either the core of Suzuki or the resin impregnation of Harvuot. No teaching or suggestion is provided by Suzuki, Harvuot or Kobayashi that a roll of compactly wound toilet paper would be useful as a filter element. Further, no teaching is provided that the toilet paper is compactly wound in a manner to exhibit a contour which prevents inward unraveling. That Suzuki states that the filter element therein can be made in the manner of toilet paper simply suggests a manner of winding paper, for example, such as on winding apparatus used to make articles of rolled toilet paper material. Such does not suggest that toilet paper rolls are useful as filter materials.

Whiteside is applied with respect to an additional limitation in the dependent claims. Whiteside also does not make up for the shortcomings of Suzuki, Harvuot and Kobayashi.

Whiteside is not directed to a coreless filter element of a compactly wound absorbent tissue paper devoid of a core and allowing for movement of fluid in a centripetal direction across the filter element. Whiteside teaches an oil filter having a filter element surrounding a central core integral with and projecting upward from the base. The core structure is critical to Whiteside's teaching of a fluid flow in a direction parallel to the axis of the filter. Whiteside would not be useful for its intended purpose without a central core and such intended purpose does not provide for a centripetal fluid flow.

B. Supporting Case Law

The Court of Appeals for the Federal Circuit in In re Dow Chemical Co., 5 USPQ2d 1529, 1531 (Fed. Cir. 1988), stated -

"The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. [References omitted] Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant's disclosure.

"In determining whether such a suggestion can fairly be gleaned from the prior art, the full field of the invention must be considered; for the person of ordinary skill is charged with knowledge of the entire body of technological literature, including that which might lead away from the claimed invention."



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Deficiencies in the factual basis cannot be supplied by resorting to speculation or unsupported generalities. In re Warner, 379 F.2d 1011, 154 USPQ 173 (CCPA 1967) and In re Freed, 425 F.2d 785, 165 USPQ 570 (CCPA 1970).

Further, the mere fact that the prior art can be modified does not make the modification obvious unless the prior art suggests the desirability of the modification. In re Gordon, 733 F.2d 900, 902; 221 USPQ 1125 (Fed. Cir. 1984). Once appellants' solution to a problem is disclosed, it is easy to see how prior references can be modified and manipulated to produce the claimed invention. The change can appear simple and by hindsight seem obvious. However, as stated by the Court in In re Sporck, 133 USPQ 360, 363 (CCPA 1962), the simplicity of new inventions is oftentimes the very thing that is not obvious before they are made. The Court goes on to cite as support In re Osplack, 195 F.2d 921, 93 USPQ 306, 308 stating -

"We think this case is one of that category of inventions which, when viewed after disclosure and explanation by an applicant, seem simple and such as should have been obvious to those in the field. Yet this does not necessarily negative invention or patentability. [citations omitted] Indeed, simplicity may even be some evidence of invention. [citations omitted]."

The Examiner is selecting select parts of the prior art disclosures based on appellants' own teaching. This is using improper hindsight. Thus, as the Court of Appeals for the Federal Circuit stated in In re Rouffet, 47 USPQ2d 1453

(Fed. Cir. 1998) -

"As this court has stated, 'virtually all [inventions] are combinations of old elements.' *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693, 698, 218 USPQ 865, 870 (Fed. Cir. 1983); see also *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579-80, 219 USPQ 8, 12 (Fed. Cir. 1983) ('Most, if not all, inventions are combinations and mostly of old elements.'). Therefore an examiner may often find every element of a claimed invention in the prior art. If identification of each claimed element in the prior art were sufficient to negate patentability, very few patents would ever issue. Furthermore, rejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention. Such an approach would be 'an illogical and inappropriate process by which to determine patentability.' *Sensonics, Inc. v. Aero-sonic Corp.*, 81 F.3d 1566, 1570. 38 USPQ2d 1551, 1554 (Fed. Cir. 1996).

"To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case of obviousness. In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed."

In the case at hand, there is no motivation to pick and choose only select parts from a plurality of references as applied by the Examiner.

Accordingly, appellants respectfully submit that none of the applied combinations of art teach or suggest the claimed invention within the meaning of 35 U.S.C. §103. Withdrawal of the §103 rejections is, therefore, respectfully requested.

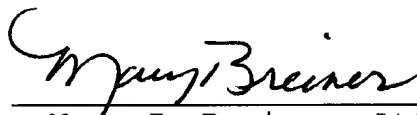
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Conclusion

It is respectfully submitted that the appealed claims are patentable within the meaning of 35 U.S.C. §103. Reversal of the Examiner's rejections is, therefore, respectfully urged.

Respectfully submitted,

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- Appendix

The Appealed Claims:

13. A filter element for filtering a fluid in a filter system comprising a cylindrical case, said filter element comprising an absorbent tissue paper material in sheet form compactly wound to form inner winding turns therein and to constitute a tubular cylinder inside said cylindrical case in a manner to partition an outer radial part from an inner radial part, wherein fluid is able to move across the filter element in a substantially centripetal direction, wherein the filter element is devoid of a central core, and wherein the inner winding turns exhibit a contour which prevents the inner winding turns from unraveling inward.

14. The filter element as claimed in claim 13 wherein the tubular cylinder has a mean inside diameter greater than  $1/20$  of a mean outside diameter of the tubular cylinder.

15. The filter element as claimed in claim 14 wherein the mean inside diameter is greater than  $1/4$  the mean outside diameter.

16. The filter element as claimed in claim 15 wherein the mean inside diameter is between  $1/3$  and  $1/2$  the mean outside diameter.

17. The filter element as claimed in any one of claims 13, 14, 15 or 16 wherein the mean inside diameter cylinder is greater than 25 mm.

18. The filter element as claimed in claim 13 wherein the tubular cylinder has an inside wall which is conical or cylindrical in shape and has a circular or polygonal cross-sectional shape.

19. The filter element as claimed in claim 13 wherein the filter element further comprises at least one polarizing positioning means.

20. The filter element as claimed in claim 13 wherein said absorbent paper material is a strip which is a continuous single sheet wound to provide the tubular cylinder.

21. The filter element as claimed in claim 13 wherein said absorbent paper material is comprised of a series of sheets which are interlaced to provide the tubular cylinder.

22. The filter element as claimed in claim 13 or 20 wherein the sheet comprises several plies.

23. The filter element as claimed in claim 21 wherein each sheet of said series of sheets comprises several plies.

25. The filter element as claimed in claim 13 wherein the filter system is constructed and arranged to filter automotive engine oil.

\* \* \* \* \*